

BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, DC 20554

In re Request of)
)
National Railroad Passenger Corporation)
)
Request for Waiver of Certain Part 80 Technical)
Rules to Allow Construction of an Advanced)
Civil Speed Enforcement System in the)
Automated Maritime Telecommunications)
System Band)

FILED/ACCEPTED

JAN - 3 2011

**Federal Communications Commission
Office of the Secretary**

REQUEST FOR WAIVER

Pursuant to Sections 1.3 and 1.925 of the Commission's rules, National Railroad Passenger Corporation ("Amtrak") requests that the Commission waive certain of its Part 80 technical rules¹ so that Amtrak may acquire licenses for, and use frequencies in, the Automated Maritime Telecommunications System ("AMTS") band (217-218 MHz, and 219-220 MHz) in its deployment of an Advanced Civil Speed Enforcement System ("ACSES") in 35 counties running from Washington, DC to Boston, Massachusetts, Amtrak's Northeast Corridor line.² ACSES is Amtrak's solution within its Northeast Corridor (Washington-Boston route) and connecting corridors to the federal requirement that it implement a "positive train control" ("PTC") system

¹ Very similar waivers have already been granted to a number of licensees in the 220 MHz Radio Service (see, e.g., *Request of PTC-220, LLC for Waivers of Certain 220 MHz Rules*, Memorandum Opinion and Order, 24 FCC Rcd 8537 (WTB 2009); *Application for Consent to the Assignment of a Five-Channel 220 MHz Nationwide License to the Association of American Railroads*, Order, 18 FCC Rcd 24711 (WTB 2003)), and the findings on which the Commission based the grant of those waivers apply equally to the instant request. Therefore, Amtrak believes that the requested waivers may be granted under delegated authority by the Chief of the Wireless Telecommunications Bureau, if not the Chief of the Mobility Division of the Wireless Telecommunications Bureau

² 47 C.F.R. §§ 1.3, 1.925.

in the next five years. As demonstrated below, favorable action on the requested waivers, summarized in Attachment A hereto, will serve the public interest, convenience and necessity.

The Rail Safety Improvement Act of 2008 requires that all “Class I” and passenger rail carriers develop and deploy PTC systems capable of interoperating with each other no later than December 31, 2015.³ Given this ambitious schedule, inter-carrier discussions are well underway, and the consensus of opinion that has emerged is that frequencies in the 217 - 222 MHz range will provide the most suitable spectrum for full scale deployment of PTC. With no specific allocation for PTC systems currently provided in the FCC’s rules, however, the most cost-effective PTC system designs cannot operate in these frequency bands without special regulatory relief.

The FCC has already granted relief from several technical requirements imposed on the 220 MHz Radio Service spectrum so that it would be suitable for use in PTC systems,⁴ as a result of which that spectrum band is being utilized in large measure by the freight railroad companies who are also implementing PTC on their rails. Because it has become clear to Amtrak that the AMTS band is an attractive alternative for its planned ACSES system along the Northeast Corridor, Amtrak has initiated a process for obtaining spectrum in this band from a number of licensees who may be willing to partition and/or disaggregate spectrum within the 35 counties of interest to Amtrak (listed in Attachment B hereto). However, before it can reasonably commit the funds necessary to acquire licenses for this spectrum in the secondary market, Amtrak seeks some certainty that similar waivers of certain Part 80 AMTS technical rules will also be available

³ See Rail Safety Improvement Act of 2008, Pub. L. No. 110-432, 122 Stat. 4848 (2008).

⁴ *Request of PTC-220, LLC for Waivers of Certain 220 MHz Rules*, Memorandum Opinion and Order, 24 FCC Rcd 8537 (WTB 2009); *Application for Consent to the Assignment of a Five-Channel 220 MHz Nationwide License to the Association of American Railroads*, Order, 18 FCC Rcd 24711 (WTB 2003).

to it when implementing its planned system. Amtrak acknowledges that similar waivers are more typically granted in the context of a specific application for assignment of frequencies. Given the scope of Amtrak's potential license acquisition and the critical importance of implementing its PTC solution as soon as possible, however, Amtrak believes that good cause exists, as set forth in detail below, to grant the requested relief as it may apply to Amtrak's use of any AMTS spectrum to which it may acquire rights (as a licensee or spectrum lessee) in the 35 counties of interest to it.

The Commission may waive its rules for good cause shown.⁵ The Commission may also grant a waiver where unique or unusual factual circumstances would render application of the rules "inequitable, unduly burdensome, or contrary to the public interest, or the applicant has no reasonable alternative."⁶ Amtrak respectfully submits that each of these standards is satisfied in this instance, and thus favorable action on the requested waivers would be consistent with the public interest, convenience and necessity, as well as recent Commission precedent, and that such action is therefore warranted.

1. Waiver of Rules is Justified, and Will Serve the Public Interest

Amtrak is subject to a federal mandate to deploy an interoperable PTC system by December 15, 2015. As noted above, several of the nation's largest freight railroads – BNSF, CSXT, Norfolk Southern, and Union Pacific – on the tracks of which Amtrak trains operate – have joined together in the PTC-220 consortium to acquire spectrum in the 220 MHz Radio Service to construct their PTC system.⁷ Given the anticipated capacity constraints on this

⁵ 47 C.F.R. § 1.3.

⁶ 47 C.F.R. § 1.925(b)(3)(ii)

⁷ PTC-220, LLC holds a number of nationwide and regional licenses in the 220 MHz band which will be used for the consortium's PTC system.

system, along with Amtrak's internal and financing deadlines for implementing its PTC network, the 220 MHz Radio Service spectrum does not hold great promise as the solution for Amtrak's PTC network. However, Amtrak does want to obtain enough spectrum rights in close spectral proximity to PTC-220's so that its own PTC system will be easily interoperable with that of the freight railroads.

After extensive spectrum research and a broad-based public process for identifying appropriate and available frequencies, Amtrak has determined that the best option involves use of the AMTS spectrum rights it seeks to acquire in the secondary market. However, in order to utilize AMTS spectrum in its planned ACSES system for PTC purposes, Amtrak requires the waiver of some of the FCC's Part 80 technical rules that would otherwise apply to those frequencies, as listed in Attachment A.⁸ A majority of the Part 80 rules from which a waiver is sought are designed to accommodate the unique requirements of a shared, public maritime communications system, and are simply not applicable to, and in many cases are incompatible with, an exclusive-use, private land mobile radio system like PTC.⁹ Thus, for example, Section 80.105 of the FCC's rules requires that AMTS systems be available to all mobile users (*i.e.*, ship or aircraft stations), but this rule is simply incompatible with the unique needs of a PTC system

⁸ Similar waivers are being sought by the Southern California Regional Rail Authority (the "SCCRA") in connection with its efforts to construct a PTC system on AMTS frequencies in Southern California. See "Request of Southern California Regional Rail Authority for Waiver of Certain Part 80 Rules," appended to FCC File No. 0004144435 (Filed March 11, 2010) ("*SCCRA Waiver*"). While the list of requested rule waivers is intended to be complete, Amtrak respectfully requests that the Commission waive any and all rules it may deem necessary in connection with the PTC system deployment discussed herein.

⁹ *SCCRA Waiver* at 5-6. As the SCCRA noted, "PTC systems require very reliable, frequent communication of movement authority messages to trains in order for the trains to be permitted to move. If PTC radio communications are not robust (error-free), movement authority messages will not always be successfully communicated and when they are not, trains will be stopped." *Id.* at 7-8.

intended to serve only rail lines.¹⁰ Other rules focused on operational issues for AMTS licensees are similarly inapposite in the context of a PTC network.¹¹

Amtrak also requires a waiver of certain power and antenna height restrictions imposed by Part 80.¹² These limits are intended for shared systems operating over flat coastal waters, and are designed to limit interference from these systems to other co-channel and adjacent channel licensees. But they are neither appropriate nor necessary for a land-based, exclusive use, private land mobile radio system like ACSES. Indeed, in order for the ACSES system to achieve the level of robust, error-free communications that a PTC system will require to assure the safety of life and property on its rail lines, Amtrak requests a waiver of Part 80 rules so that it may operate at up to 75 watts output power for fixed terminal base radios, 50 watts output power for train-mounted and other mobile units, and 30 watts output power for fixed wayside units.¹³ Similarly, Amtrak requires waiver of Section 80.123(e), which imposes a 6.1 meter antenna height limitation, so that it may deploy fixed station antennas up to 100 feet and fixed wayside stations up to 50 feet.

Amtrak also requests a waiver of Section 80.385(a)(2), which requires base stations to transmit on the lower half of the AMTS channel block, and mobile stations on the upper half.¹⁴ Since Amtrak's PTC system will operate on a private, exclusive basis, the need to separate fixed and mobile communications for interference prevention purposes (as might be the case with a

¹⁰ 47 C.F.R. § 80.105.

¹¹ See 47 C.F.R. §§ 80.123(b) and (g), 80.475(c).

¹² 47 C.F.R. §§ 80.123(e), 80.215(e)(2), 80.215(h)(5) and 80.215(i).

¹³ *Id.*

¹⁴ 47 C.F.R. § 80.385(a)(2).

public, shared use) is unnecessary, and would needlessly limit Amtrak's ability to maximize efficient frequency use and reuse on its network.

With these waivers in place, the Commission can advance its goal of maximizing spectrum efficiency and encouraging flexible use of available spectrum. Indeed, when the Commission streamlined its AMTS service rules in 2002, it did so with the hope of "promot[ing] more efficient use of maritime spectrum" ¹⁵ Similarly, when the Commission allowed AMTS licensees to serve users on land in 2007, it stated that its intent was to "facilitate more efficient use of VPC and AMTS spectrum; and provide an additional means to meet growing demand for spectrum by PLMR licensees and end users, including public safety and critical infrastructure industry (CII) entities." ¹⁶ Granting the rule waivers to allow Amtrak to implement a PTC system on these AMTS frequencies in the 35 counties in which Amtrak intends to deploy the AMTS spectrum will further advance these important public policy goals.

2. Waiver of Rules Will Not Prejudice Other Parties

If Amtrak is successful in obtaining AMTS spectrum on the secondary market, operating under the requested waivers within the 35 specified counties should not adversely impact the interests of any other party. First, with respect to maritime users, Amtrak notes that there are many other public coast licensees in the same areas where it seeks to construct its PTC system, and thus no party will lose service as a result of Amtrak's proposal. ¹⁷ Second, with respect to

¹⁵ *Amendment of the Commission's Rules Concerning Maritime Communications*, Second Memorandum Opinion and Order and Fifth Report and Order, 17 FCC Rcd 6685 (2002).

¹⁶ *Maritel, Inc. and Mobex Network Services, LLC Petitions for Rulemaking to Amend the Commission's Rules to Provide Additional Flexibility for AMTS and VHF Public Coast Station Licenses*, Report and Order, 22 FCC Rcd 8971, 8972 (2007)

¹⁷ Maritime users increasingly rely on cellular and satellite telephone service for their communications needs. It is a matter of public record that the northeast United States – the geographic area in which Amtrak proposes to build its system – is blanketed by numerous wireless mobile carriers.

existing and future AMTS operations, Amtrak is committed to working closely with adjacent area licensees to ensure that its PTC operations do not interfere with, and are not subject to interference from, any other maritime or other services being offered by those licensees.

To this end, Amtrak will only purchase spectrum covering a sufficient area beyond that in which it operates to be sure that its system can operate efficiently and still limit its field strength to 38 dBu at its license area boundary with other licensees. Doing so complies with Section 80.479(b) of the Commission's rules,¹⁸ and will also help insure that even an adjacent area co-channel licensee operating at full strength under the rules should not create any harmful interference to the Amtrak ACSES system.¹⁹ Finally, because Amtrak will observe the interference protection criteria specified in Section 80.215(h) of the Commission's rules (including preparation and submission of a plan to limit interference, as necessary), favorable action on this request will not harm operations on television channels 10 and 13.

¹⁸ 47 C.F.R. § 80.479(b)

¹⁹ In current discussions with AMTS licensees, a principal condition to the suitability of spectrum being offered is that the license area being considered is wide enough to provide such a protection zone to the Amtrak system from co-channel licensees or that the selling licensee is amenable to limiting its co-channel operations in the adjacent market to provide such protection.

Conclusion

As demonstrated above, grant of the requested waivers would serve the public interest, convenience and necessity, and would not harm other users. Accordingly, Amtrak respectfully requests that the Commission grant the rule waiver requests made herein.

Respectfully Submitted,

National Railroad Passenger Corporation

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RULE WAIVERS REQUESTED¹

FCC Rule Section	Subject	Explanation
80.92(a)	Prevention of Interference – Listen Before Talk Requirement	Unnecessary for a centrally-managed, exclusive, internal-use system
80.102(a)	Radiotelephone Station Identification – ID at Beginning and End of Each Communication	Unnecessary for a centrally-managed, exclusive, internal-use system
80.105	General Obligations of Coast Stations – Must Receive Calls from Ship or Aircraft	Inconsistent with PTC system operation.
80.106	Intercommunication in the Mobile Service – Mobiles Must Receive Calls from Ship or Aircraft	Inconsistent with PTC system operation.
80.123(a)	Service to Stations on Land – Administrative Requirements	Inconsistent with PTC system operation.
80.123(b)	– Priority to Marine Communications	Inconsistent with PTC system operation.
80.123(c)	– Land Unit Identification Requirements	Inconsistent with PTC system operation.
80.123(d)	– Restricted Operations on Public Correspondence Channels	Inconsistent with PTC system operation.
80.123(e)	– Transmitter Power Limitations	Inconsistent with PTC system operation. Applicant requests power limit of 75 watts for fixed terminal base stations, and 30 watts for fixed wayside units.
80.123(e)	– Antenna Height Limitations	Inconsistent with PTC system operation. Applicant requests antenna height limit of 100 feet for fixed terminal base stations, and 50 feet for fixed wayside stations.
80.123(f)	– Land Stations May Only Communicate with Public Coast Stations	Inconsistent with PTC system operation.
80.123(g)	– Land Station Must Cease Operation if Causing Harmful Interference to Marine Communications	Inconsistent with PTC system operation. Amtrak will promptly correct any harmful interference to marine communications.
80.205	Bandwidth	12.5 KHz required

¹ While the list of requested rule waivers is intended to be complete, Amtrak respectfully requests that the Commission waive any and all rules it may deem necessary in connection with the PTC system deployment discussed herein.

FCC Rule Section	Subject	Explanation
80.207	Classes of Emissions	May be inconsistent with particular equipment being considered for use in PTC system
80.215(e)(2)	Transmitter Power – Mobile Stations Limited to 25 Watts	Inconsistent with PTC system operation. Applicant requests power limit of 50 watts for mobile units.
80.215(h)(5)	AMTS Transmitter Power – Fixed Terminal Base Stations limited to 50 Watts	Inconsistent with PTC system operation. Applicant requests power limit of 75 watts for fixed terminal base stations.
80.215(i)	Transmitter Power – Mobile Units Limited to 25 Watts	Inconsistent with PTC system operation. Applicant requests power limit of 50 watts for mobile units.
80.385(a)(2)	Coast Stations Must Transmit on Lower Half of Band, Mobile Stations on Upper Half	Inconsistent with PTC system operation.
80.475(c)	Service Must be Provided to Ship Stations Without Prior Arrangements	Inconsistent with PTC system operation.
80.479(c)	Assignment and Use of Frequencies for AMTS – Written Consent from Affected Licensees for Mobile-to-Mobile Communications	Inconsistent with PTC system operation.

AMTRAK NORTHEAST CORRIDOR

County	State
Hartford	CT
Middlesex	CT
New Haven	CT
New London	CT
New Castle	DE
District of Columbia	DC
Anne Arundel	MD
Baltimore	MD
Cecil	MD
Harford	MD
Prince George's	MD
Bristol	MA
Hampden	MA
Norfolk	MA
Suffolk	MA
Essex	NJ
Hudson	NJ
Mercer	NJ
Middlesex	NJ
Union	NJ
Bronx	NY
New York	NY
Queens	NY
Rensselaer	NY
Westchester	NY
Bucks	PA
Chester	PA
Dauphin	PA
Delaware	PA
Lancaster	PA
Montgomery	PA
Philadelphia	PA
Kent	RI
Providence	RI
Washington	RI